

# ANNALS OF NATURAL HISTORY.

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I.—On *Scrophularia aquatica* of Linnæus and Ehrhart. By  
CHARLES ABBOT STEVENS, Esq., B.A., F.B.S.E.\*

[With a Plate.]

AN examination, through the kindness of Professor Don, of the specimens of *Scrophulariæ* in the Linnæan and Smithian Herbaria has confirmed a suspicion I have for some time had, that under the name of *S. aquatica* two distinct species have been confounded by botanists: one, the original *S. aquatica* of Linnæus; the other the *S. aquatica* of Ehrhart's 'Plantæ Officinales.' Thus in his 'English Flora,' Sir J. E. Smith has combined the characters of the two under that name; his diagnosis, which is merely a translation from that in Linn. 'Sp. Pl.', belonging to the former plant, while to the latter his description principally refers,—not *entirely*, as some of the characters of *S. aquatica*, Linn. are mixed up in it. The fact of there being a specimen of each of the two species on the same paper in his Herbarium will account for the description having been thus drawn up from their combined characters, as he evidently considered the two as one species, and identical with *S. aquatica*, Linn.

By several German authors the plant of Ehrhart is described under the name of *S. aquatica*, while the true *S. aquatica*, Linn. is described as another species under the name of *S. Balbisi*. It seems not improbable that the combination into one of the two species by the late possessor of the Linnæan Herbarium may, for the very reason of that possession, have been the cause of their mistake.

The inspection during the last season of a great number of specimens, amounting to not less than several hundred, of *S. aquatica*, Linn. afforded me no instance of any variation in the integrity of the staminodium; nor have I ever seen any specimen at all approaching *S. aquatica*, Ehrh. in the inflorescence or in general habit. There can, I imagine, be no

\* Read to the Botanical Society of Edinburgh, Feb. 13, 1840.

doubt of their distinctness. Roots are, I understand, in the possession of an eminent British botanist, who, by cultivation thereof, will doubtless be enabled shortly to determine the point beyond dispute.

In the mean time it may be useful to give the respective characters of the two plants. They are as follow :

1. *S. aquatica*, Linn. Foliis cordato-ovatis rotundato-obtusis crenato-serratis, inferioribus auriculatis, caule petiolisque alatis, panicula terminali, cymis lateralibus corymbosis multi-(8—15)-floris, laciniis calycinis subrotundis margine late scariosis, staminodio subrotundo-reniformi integro, capsula ovata subacuta.

*Betonica aquatica*, Dalech. Hist. 1356. Ger. Em. 715. f.

*S. radice fibrosa*, Moris. Oxon. ii. 482. s. 5. t. 8. f. 4.

*S. aquatica major*, Raii Hist. 764.

*S. foliis conjugatis*, &c., Hall. Helv. 618. Boehm. Lips. 66. n. 150.

*S. aquatica*, Linn. Herb. Sp. Pl. 864. Curt. Fl. Lond. v. t. 44. Engl. Bot. t. 854. Krock. Fl. Siles. ii. 393. Sibth. Fl. Oxon. 196. Sm. Fl. Brit. 663. Hook. Fl. Scot. 189. Grev. Fl. Edin. 137. Sm. E. Fl. iii. 139. (diagn. only). Sm. Herb. n. 2. With Bot. Arr. (ed. 7.) iii. 738. Hook. Br. Fl. (ed. 4.) 239. \*Sebast. et Mauri Fl. Rom. 205. \*Pollinus Fl. Veron. 325.

*S. scorodonia* (*aquatica*? *Sm. not.*) Linn. Herb. (without ref. to Sp. Pl.)

*S. Balbisii*, "Hornem. Fl. Hafn. ii. 577." Bluff et Fingerh. (ed. 2.) i. p. 2. 389. Koch. Syn. 515. \*Guss. Fl. Sic. Prodr. ii. 172.

*Hab.* Cambridgeshire, very common, Mr. H. Baber. Shropshire, common, Mr. W. A. Leighton. Very common in ditches and damp places in Kent, and probably general throughout England.

Perennial, July—September.

Root fibrous. Stem erect, from 2—8 feet high, branched below, mostly simple above, square, winged at the angles. Leaves ovate-oblong or elliptical, cordate at the base, very obtuse, uppermost occasionally subacute, the lower ones with one or a pair of variously shaped stalked or sessile accessory leaflets, smooth or downy beneath, doubly-, the upper ones most simply-, crenate. Petioles winged, channelled, decurrent. Panicle of many distant, mostly opposite, dichotomous, many flowered, compact, corymbose cymes. Peduncles and pedicels glandulose. Bracts linear obtuse, rarely (as in the specimen in the Linnæan Herbarium, which is, however, apparently

\* For these references I am indebted to Mr. C. C. Babington.

of garden growth), developed into lanceolate acute leaves. Sterile filament rotundato-reniform, entire. Sepals with a broad membranous margin, torn at the edges. Capsules ovate, more or less acute.

2. *S. Ehrharti*. Foliis ovato-lanceolatisve basi subcordatis acutis serratis, caule petiolisque alatis, panicula terminali, cymis lateralibus laxis pauci-(4—6)-floris, laciniis calycinis subrotundis margine late scariosis, staminodio bifido laciniis divaricatis, capsula globosa obtusissima.

*S. aquatica*, *Ehrh. Pl. Off.* n. 156. *Sm. Herb.* n. 1. *Fl. Dan.* t. 507. *Kunth, Fl. Berol.* ii. 60. *Bluff et Fingerh.* l. c. *Rchb. Fl. excurs.* n. 2562. *Koch, Syn.* 515. \**Peterm. Fl. Lips.* 459. \**Host. Fl. Austr.* ii. 203. \**Wimm. et Grab. Fl. Siles.* ii. 226.

*Hab.* Edinburgh, *Mr. W. H. Campbell*; Cramond Woods, West Lothian, *Dr. A. Hunter*. It has also, I believe, been found near Primrose Hill by *Mr. J. D. C. Sowerby*.

Perennial — ?

Root fibrous. Stem erect, 2—? feet high, simple, square, winged at the angles. Leaves ovate, ovate-oblong or lanceolate, slightly cordate at the base, acute, simply and finely serrate. Panicle of many, mostly alternate, dichotomous few-flowered cymes. Peduncles and pedicels divaricating, slightly glandulose. Bracts foliaceous lanceolate acute, simple or tripartite, in which latter case the segments are lanceolate. Sterile filament obreniform, bifid, the lobes divaricating. Sepals with a broad torn membranous margin. Capsule globose, very obtuse.

REFERENCES TO PLATE I. fig. 1.

*a a.* Single cymes of the two Plants.

*b b.* Staminodia of ditto.

*c c.* Margins of leaves of ditto.

II.—*Catalogue of the Species of Fungi obtained in the North of Ireland, by JOHN TEMPLETON, Esq., of Cranmore, Belfast. By THOMAS TAYLOR, M.D., M.R.I.A., F.L.S.*

Dunkerron, Kenmare, 12th March 1839.

THE following Catalogue of Fungi collected by the late Mr. John Templeton in the vicinity of Belfast, is drawn up from drawings and specimens left by him, and which Mrs. Templeton placed in my hands, with a desire that I should carefully ascertain the species and their modern names with a view to

\* For these references I am indebted to Mr. C. C. Babington.

publication. I have bestowed upon them my best attention; and yet the list is deficient by a few of the drawings whose counterparts I have not yet met with in nature, and by a very few of the specimens from whose imperfect state no satisfactory conclusions could be drawn. Still I cannot but admire the industry and talents of one who, at least equally successful in all the other departments of zoology and of botany, displayed so intimate a knowledge of plants difficult of investigation, at least before the termination of the last century, when the greater part of his collection was already made.

THOS. TAYLOR.

1. AGARICUS, *Linn.*

vaginatus, *Batsch.*  
 muscarius, *L.*  
 clypeolarius, *Bull.*  
 cristatus, *Bolt.*  
 eburneus, *Bull.*  
 rutilans, *Schæff.*  
 multiformis, *Schæff.*  
 personatus, *Fr.*  
 alutaceus, *Pers.*  
 emeticus, *Schæff.*  
 cilicioides, *Fr.*  
 zonarius, *With.*  
 giganteus, *Sow.*  
 nebularis, *Batsch.*  
 pratensis, *Pers.*  
 puniceus, *Fr.*  
 coccineus, *Wulf.*  
 laccatus, *Scop.*  
 pelianthinus, *Fr.*  
 butyraceus, *Bull.*  
 compressus, *Sow.*  
 confluens, *Pers.*  
 Clavus, *Bull.*  
 Rotula, *Scop.*  
 androsaceus, *L.*  
 caulicinalis, *Bull.*  
 galericulatus, *Scop.*  
 purus, *Pers.*  
 corticola, *Bull.*  
 stellatus, *Fr.*  
 umbelliferus, *L.*  
 fragrans, *Sow.*  
 flabelliformis, *Bolt.*  
 applicatus, *Batsch.*  
 fertilis, *Pers.*  
 pascuus, *Pers.*  
 evernius, *Fr.*  
 gentilis, *Fr.*  
 sublanatus, *Sow.*  
 bulbosus, *Sow.*  
 scaurus, *Fr.*  
 aureus, *Bull.*  
 squarrosus, *Müll.*  
 mutabilis, *Schæff.*

collinitus, *Sow.*  
 fastibilis, *Pers.*  
 flavidus, *Schæff.*  
 scaber, *Müll.*  
 geophyllus, *Bull.*  
 tener, *Schæff.*  
 involutus, *Batsch.*  
 variabilis, *Pers.*  
 Georgii, *With.*  
 campestris, *L.*  
 semiglobatus, *Batsch.*  
 fascicularis, *Huds.*  
 semiovatus, *Sow.*  
 Boltoni, *Pers.*  
 disseminatus, *Pers.*  
 atramentarius, *Bull.*  
 micaceus, *Bull.*  
 cinnamomeus, *L.*  
 personatus, *Fr.*  
 fragilis, *Batsch.*  
 dilutus, *Pers.*  
 cohærens, *Pers.*  
 cyathiformis, *Bull.*  
 chalybeus, *Pers.*  
 Bulliardii, *Temp.*

2. CANTHARELLUS, *Adans.*

cibarius, *Fr.*  
 lobatus, *Pers.*  
 lævis, *Fr.*

3. MERULIUS, *Hal.*

corium, *Grev.*  
 lachrymans, *Wulf.*

4. POLYPORUS, *Mich.*

lentus, *Berk.*  
 squamosus, *Huds.*  
 perennis, *L.*  
 giganteus, *Pers.*  
 versicolor, *L.*  
 pallescens, *Fr.*  
 radiatus, *Sow.*  
 medulla panis, *Jacq.*  
 ferruginosus, *Schrad.*

5. BOLETUS, *Dill.*

luteus, *L.*  
 bovinus, *L.*  
 piperatus, *Bull.*  
 subtomentosus, *L.*  
 edulis, *Bull.*

6. FISTULINA, *Bull.*  
 hepatica, *With.*

7. HYDNUM, *Linn.*  
 repandum, *L.*

8. THELEPHORA, *Ehrh.*

epidermea, *Pers.*  
 cœrulea, *Schrad.*  
 aurantiaca, *Sow.*  
 calcea, *Pers.*  
 purpurea, *Pers.*  
 rubiginosa, *Schrad.*  
 hirsuta, *Willd.*  
 laciniata, *Pers.*

9. CLAVARIA, *Vaill.*

coralloides, *L.*  
 rugosa, *Bull.*  
 pistillaris, *L.*  
 vermicularis, *Sow.*  
 tuberosa, *Sow.*  
 cornea, *Batsch.*  
 inæqualis, *Müll.*  
 pratensis, *Pers.*

10. GEOGLOSSUM, *Pers.*  
 glabrum, *Pers.*

11. MITRULA, *Fr.*  
 paludosa, *Fr.*

12. TYPHULA, *Fr.*  
 erythropus, *Fr.*

13. PISTILLARIA, *Fr.*  
 puberula, *Berk.*

14. *HELVELLA*, Linn.  
lacunosa, Afz.

15. *LEOTIA*, Hill.  
lubrica, Scop.

16. *PEZIZA*, Dill.  
vesiculosa, Bull.  
humosa, Fr.  
coccinea, Jacq.  
brunnea, Alb. & Schw.  
scutellata, L.  
stercorea, Pers.  
virginea, Batsch.  
calycina, Schum.  
inflexa, Bolt.  
Calyculus, Sow.  
citrina, Hedw.  
lenticularis, Bull.  
cinerea, Batsch.  
acicularis, Bull.  
aurantia, Pers.  
aquatica, DeCand.  
cochleata, Bull.  
lycoperdioides, DeCand.  
nivea, Hedw. fil.  
villosa, Pers.  
pillata, Pers.

17. *BULGARIA*, Fr.  
sarcoides, Jacq.

18. *TREMELLA*, Dill.  
mesenterica, Retz.  
albida, Smith.  
sarcoides, With.  
difformis, With.

19. *DACRYMYCES*, Nees.  
stillatus, Nees.

20. *SCLEROTIUM*, Tode.  
complanatum, Tode.  
durum, Pers.

21. *NIDULARIA*, Bull.  
Crucibulum, Pers.

22. *SPHÆROBOLUS*, Tode.  
stellatus, Tode.

23. *PILOBOLUS*, Tode.  
crystallinus, Tode.

24. *SPHÆRIA*, Hall.  
militaris, L.  
Hypoxylon, L.  
carphophila, Pers.  
fragiformis, Pers.  
fusca, Pers.  
stigma, Hoffm.

disciformis, Hoffm.  
flavo-virens, Hoffm.  
coccinea, Pers.  
aurantia, Pers.  
byssiseda, Tode.  
morfiformis, Tode.  
Pulvis pyrius, Pers.  
ocellata, Fr.  
Tilia, Pers.  
Gnomon, Tode.  
punctiformis, Pers.  
Ægopodii, Pers.  
Vaccinii, Sow.  
Taxi, Sow.  
rimosa, Sow.  
lilicis, Schleich.  
lanciformis, Fr.  
spermoides, Hoffm.  
acuta, Hoffm.  
serpens, Pers.

25. *DOTHIDEA*, Fr.  
typhina, Pers.  
Geranii, Fr.

26. *RHYTISMA*, Fr.  
Acerinum, Pers.

27. *PHACIDIUM*, Fr.  
coronatum, Fr.

28. *HYSTERIUM*, Tode.  
pulicare, Pers.  
Fraxini, Pers.  
conigenum, Mong. et N.  
Rubi, Pers.  
Pinastris, Schrad.  
Juniperi, Grev.

29. *BOVISTA*, Dill.  
nigrescens, Pers.

30. *LYCOPERDON*, Tourn.  
cælatum, Bull.

31. *ELAPHOMYCES*, Nees.  
granulatus, Alb. et Schw.

32. *ÆTHALIUM*, Link.  
septicum, L.

33. *SPUMARIA*, Pers.  
alba, Bull.

34. *DIDYMIUM*, Schrad.  
physaroides, Pers.

35. *PHYSARUM*, Pers.  
sinuosum, Bull.

36. *CRATERIUM*, Trentepohl  
minutum, Leers.

37. *STEMONITIS*, Gled.  
fusca, Roth.  
ovata, Pers.  
typhina, Pers.

38. *DICTYDIUM*, Schrad.  
umbilicatum.

39. *ARCYRIA*, Hill.  
incarnata, Pers.  
futans, Bull.

40. *TRICHIA*, Hall.  
chryso sperma, DeCand.  
varia, Pers.

41. *PERICHÆNA*, Fr.  
populina, Fr.

42. *LICEA*, Schrad.  
cylindrica, Fr.  
fragariformis, Nees.

43. *ONYGENA*, Pers.  
equina, Pers.

44. *STILBUM*, Tode.  
vulgare, Tode.  
bicolor, Pers.

45. *MUCOR*, Mich.  
caninus, Pers.  
Mucedo, L.

46. *EUROTIVM*, Link.  
Herbariorum, Lk.

47. *CLADOSPORIVM*, Link.  
Herbarum, Lk.

48. *DEMATIVM*, Pers.  
ciliare, Pers.

49. *ASPERGILLUS*, Mich.  
glaucus, Lk.

50. *STACHYLIDIUM*, Lk.  
diffusum, Fr.

51. *CERATIVM*, Alb. et S.  
hydroides, Alb. et S.

52. *BOTRYTIS*, Mich.  
vera, Fr.

53. *MONILIA*, Hill.  
racemosa, Pers.

54. *FUSARIUM*, Lk.  
tremelloides, Grev.

55. *AREGMA*, Fr.  
bulbosum, Fr.  
mucronatum, Fr.

56. *PODISOMA*, Lk.  
Juniperi Sabine, Fr.

57. PUCCINIA, Pers. Graminis, Pers. Epilobii, DeCand.	59. HIMANTIA, Pers. candida, Pers.	Senecionis, Schlecht. Violarum, DeCand. Ruborum, DeCand.
58. ÆCIDIUM, Pers. Grossularia, DeCand.	60. UREDO, Pers. Segetum, Pers. Caries, DeCand. Labiatarum, DeCand.	Leguminosarum, Lk. candida, Pers. Lini, DeCand. Rubigo, DeCand.

III.—*Additions to the Fauna of Ireland.* By W. THOMPSON, Esq., V. Pres. of the Natural History Society of Belfast.

MAMMALIA.

*DELPHINUS MELAS*, Traill. This species is stated by Robert Ball, Esq. of Dublin, to be occasionally driven ashore in large herds on the southern coast of Ireland, and to be of frequent occurrence in the month of June at Youghal. Here a herd of seventy-five came ashore a few years ago, of which the average size was from 11 to 18 feet, but one individual had attained to 22 feet in length. When visiting the South Islands of Arran (off the coast of Clare) in June 1834, accompanied by Mr. Ball, a portion of the skeleton of a *D. melas* was found by us on the beach. On this gentleman revisiting the same islands in the following summer, he saw the remains of a herd of these animals lying where they had perished: the inhabitants speak of them as common.

AVES.

*SOMATERIA SPECTABILIS*, Leach. King-Eider. A female specimen of this rare British bird was shot in Kingstown harbour near Dublin about the 1st of Oct. 1837, and a few hours afterwards came into the possession of Mr. R. Ball. When first seen it was accompanied by two others.

*LESTRIS RICHARDSONII*, Swains. Richardson's Skua. An adult *Lestris* shot at Malahide, county of Dublin, in September 1837, and in the collection of Dr. Farren of Feltrim, exhibits characters much in unison with what are considered to be two species, the *Lest. Richardsonii*, and the *Stercorarius cephus*, Leach, (Fauna Bor.-Amer. vol. ii. p. 432.) agreeing with the latter in dimensions, and with the former in colouring. At the same time it in size approaches the *L. Richardsonii* as described by Jenyns (Man. Brit. Vert. Anim. p. 282.) as nearly as his does the original description in the 'Fauna Bor.-Amer.' (vol. ii. p. 433). The following table contains the comparative measurements:—

	<i>Lest. Richardsonii</i> , Swainson.		<i>L. Richardsonii</i> , Jenyns.		<i>Stercorarius cepphus</i> , Leach.		<i>Lestris</i> , Irish specimen.	
	in.	lin.	in.	lin.	in.	lin.	in.	lin.
Length, total.....	22	8	..... 21	0	..... 19	0	..... 19	9
— excluding cen- tral tail feathers... }	19	6	..... 18	0	..... 16	0	..... 16	9
— of wing.....	13	6	..... 13	0	..... 13	0	..... 12	6
— of bill above.....	1	1	..... 1	2½	..... 1	2	..... 1	3*
— of bill to rictus .	1	10	..... 1	9½	..... 2	0	..... 1	10
— of tarsus .....	1	10	..... 1	9	..... 1	8	..... 1	9
— of middle toe } and nail .....	1	9½	..... 1	8½	..... 0	0	..... 1	7½

Two longest tail feathers very much acuminate, the others increasing gradually in length from sides to centre, those next in length to the two central ones exceeding the outer feathers by one inch; breadth of bill at base 6 lines.

Top of head, back, upper surface of wings and tail blackish brown, varying in some places to blackish; entire under surface likewise dark-coloured, except the tail feathers which show a little white beneath; patch from the eye downwards pale straw colour. This colouring is in accordance with that of the *L. Richardsonii* of Fauna B. A. Mr. Jenyns remarks that the species is subject to considerable variation of colour in the adult state:—his description of its plumage accords tolerably well with that of *S. cepphus*.

I should have set down the Irish *Lestris* simply as a small individual of *L. Richardsonii*, had not its general accordance with *S. cepphus* at the same time suggested whether it might not as well be considered this bird, and consequently whether these terms apply to two really distinct species. An examination of specimens would at once decide the question †.

ANSER FERUS, Steph. Wild Goose. In the collection of R. Ball, Esq. there is a specimen of this goose purchased by him in Dublin market early in the winter of 1837, and which was stated to have been shot in this country; two others of this species were exposed for sale at the same time. Judging from its small size, the specimen is a female: it displays the blackish markings disposed irregularly over the lower part of the breast and the belly, which Temminck considers indicative of very old individuals of both sexes (Man. d'Orn. l'Eur. t. 2. p. 819.). These markings have generally been unnoticed

\* Following the curve; the others may have been measured in a straight line.

† Since the above was written the 4th part of Temminck's 'Manuel' has been published, and here *S. cepphus* appears as a synonym of *L. parasiticus* (p. 502.). The description of *S. cepphus* would indeed seem about equally applicable to a small *L. Richardsonii* or a large *L. parasiticus*.

in the descriptions of the species. This is the first Irish specimen of the true Wild Goose or Grey Lag, that I have seen, the Bean Goose being in this country, as in England and Scotland, the common species, and with the White-fronted, to be seen in our markets every winter. *Anser ferus* is the scientific appellation bestowed on the wild-goose noticed in some of our county histories, but as it there appears to the exclusion of the two more common species just named and has not a place in Mr. Templeton's catalogue of Irish Birds, I introduce it here. At the same time there is little doubt that the true *A. ferus* is the species alluded to in Rutt's 'Natural History of Dublin' as the "larger sort which stays and breeds here, particularly in the bog of Allen," vol. i. p. 333; similar allusions to it appear in one or two other county histories.

Mr. Jenyns considers it "highly improbable" that the domestic goose has been derived from this species. (Manual, p. 222.) After a careful comparison of the individual under consideration with the domestic species, I cannot perceive any difference except in the superior size of the latter, the result I presume of domestication. The form of the bill in the *A. ferus* is quite identical with that of the tame goose, and at once distinguishes it from *A. segetum* and *A. albifrons*\*.

#### REPTILIA.

CHELONIA CAOUANA, Schweigger. *Testudo caretta*, Linn.

Loggerhead Turtle, Shaw, Gen. Zool. vol. iii. p. 85, pl. 23.

To the kindness of H. H. Dombain, Esq. of Dublin, I owe the opportunity of examining a turtle of this species hitherto unnoticed on the British shores, which was obtained on the coast of Donegal in May 1838, and soon afterwards came into his possession. The specimen, about a foot in length, was taken by a man engaged in collecting sea-weed for manure, and who finding the hook at the end of the long pole used for "hauling in the rack," had caught in something, carefully drew it towards him, when the captive proved to be a living turtle whose eye the hook had entered. Mr. R. Ball informs me that a turtle of this species in his collection was taken alive in the sea near Youghal, but he has been inclined to regard it merely

\* *Totanus Glareola*, Temm. Mr. R. Ball has described to me a species of *Totanus* which he saw for several years about the month of June frequenting a stream in Glenbower Wood near Youghal, and believed to be this bird.

In the late Mr. Templeton's MS. a sandpiper considered to be of this species is noticed as having been seen in the neighbourhood of Belfast, but as in the previous instance in terms which do not warrant its introduction to the Fauna with certainty.



as an individual washed off the deck of a vessel, or one that had escaped from the cord which was intended to secure it, when (as is a common custom on board ship) it may have been committed to the sea for the benefit of a swim. However, as both the specimens which have been procured on the Irish coast are of the same species, and one which according to Dumeril and Bibron is very common in the Mediterranean, and of occasional occurrence in the Atlantic Ocean, they may by the natural influence of winds and waves have been carried to our shores. This remark would from the circumstance of its frequenting the same seas likewise apply to the much rarer species, the Leathery Turtle, *Sphargis coriacea*, which has been taken on the English coast. The Hawks-bill Turtle, *Chelonia imbricata*, now included in the British Fauna, may more probably than the other two species, have been washed off the decks of vessels or outlived their wreck, its native abode being so far remote from the British seas as the West Indies and the Indian Ocean\*.

#### PISCES.

SCOMBER THYNNUS, Linn. Tunny. Dr. Jacob (Professor of Anatomy in the Royal College of Surgeons) of Dublin, informs me, that during the herring season about twelve years ago he purchased a specimen of this fish about 2 feet in length, (and evidently a recent capture,) from a fisherman who supplied him with the rare species he procured, and whose ordinary fishing-ground was off Dublin Bay, within forty miles of the metropolis.

GOBIUS UNIPUNCTATUS, Parnell. One-spotted Goby. 'Wern. Mem.' vol. vii. p. 83, pl. 29. I have obtained this on the north-east coast of Ireland; and in Mr. R. Ball's collection there is a specimen, 3 inches in length, which was procured at Glendore (county Cork) by Mr. Geo. J. Allman. Although well-marked individuals of *G. unipunctatus* may appear specifically different from *G. gracilis* and *G. minutus*, yet from having remarked some specimens intermediate in character between the two first mentioned, I am led to doubt whether in these days of refinement the old *Gobius minutus* has not been multiplied into too many species.

CYCLOPTERUS CORONATUS, Couch. Coronated Lump-fish. 'Cornish Fauna,' p. 47. 'Annals Nat. Hist.' vol. ii. p. 382. Of this fish, considered by Mr. Couch distinct from the *C. lumpus*, I procured two specimens, rather exceeding 10 lines in length, by dredging in

\* All the localities noted by Dumeril and Bibron, except Havanna, are within, or bordering on the Indian Ocean.—Erpétologie Générale, tome ii. p. 551.

Strangford lough on the 1st of Oct.; the particular date is mentioned in reference to the question whether the *C. coronatus* may not be the young of *C. lumpus*. Without offering any opinion on this point, it seems to me proper to notice the capture of this minute fish elsewhere than on the coast of Cornwall, where one individual only has been observed.

## MOLLUSCA\*.

- “*Nautilus calcar*†, Mont. Miltown Malbay (co. Clare), in sand.”  
W. H. Harvey, Esq.
- “——— *lavigatulus*, Mont. Ditto.” Ditto.
- “*Vermiculum intortum*, Mont. On a sponge from Strangford.”  
Templeton’s MS.
- “*Lagenula* (Flem.) *striata*, Mont. Among sand at the Whitehouse Point [Belfast bay], Oct. 1810.” Temp. MS.
- “——— *globosa*, Mont. Among *Conferva pennata*, Belfast Bay.”  
Temp. MS.
- “——— *lavis*, Walk. M. Malbay, rare—in sand.” W. H. Harvey.
- “*Orthocera glabra*. Flem. Ditto.” Ditto.  
——— *trachea*. Flem. Ditto. Ditto.
- Miliola ovata*, Crouch, Illust. Lamarck, p. 40. pl. 20. f. 11. Common on the north, east, and south coast.
- “*Loligo media*†. Specimens occasionally received from Dublin harbour, Strangford lough, and other inlets.” Temp. MS.
- “*Octopus vulgaris*, Lam. Not uncommon.” Temp. MS.
- “*Arion ater*, var. *rufus*, var. *marginatus*. Common.” Temp. MS.

\* These having been mostly communicated to me (in 1835) in the order and under the names in which they appear in Fleming’s ‘British Animals,’ are chiefly so arranged, and thus some genera, &c. on which new light has been thrown, still appear under their old appellations. The multiplication of habitats has not been thought of in an article like the present, in which I am particular only about noting the place (in so far as I am informed) where the species occurred to those who in this country first studied and determined them.

Notices of Irish mollusca are so widely scattered, that I may, after having taken considerable care, still be in error respecting the introduction of some species as “additions” to the Fauna.

† *Spirula australis*, published many years ago as found by Mr. O’Kelly on the coast of Kerry, is mentioned in the late Mr. Templeton’s MS. as having been obtained “near Whitehouse,” Belfast Bay; and at Portrush near the Giant’s Causeway, by Mrs. Clewlow. Mr. R. Ball has procured it near Youghal, as Mr. W. H. Harvey once did on the coast of Clare.

‡ This is indicated as Irish in the abstract of a paper by Mr. R. Ball just published in the Proceedings of the Royal Irish Academy: with this explanation the species is here retained in consequence of the late Mr. Templeton’s note on it.

- “ *Arion hortensis*, Fer. Common at Cranmore [Belfast].” Temp. MS. Coloured drawings of the var. of this species named *A. circumscriptus* by Dr. Johnston were made by Mr. Templeton in 1808.
- “ *Limax agrestis*, Gmel. Common.” Temp. MS.  
 — *variegatus*, Fer. (Hist. de Moll. p. 71. pl. 5. f. 1—6.) Youghal in Mr. Ball’s collection.
- Helix concinna*, Jeff. Common in Ireland, especially in the north.
- Succinea gracilis*, Alder. Widely diffused in Ireland. Mr. Alder, I believe, now rather considers this to be a variety of *S. amphibia*.
- Limneus lacustris*. *Gulnaria lacustris*, Leach. Found in Lough Neagh and lakes generally.
- Lottia* ? *pulchella*, Forbes. ‘Malac. Monensis,’ p. 35. ‘Mag. Nat. Hist.’ viii. p. 591. f. 61. In Mr. Hyndman’s collection (Belfast) are a few small specimens of this shell—the first obtained on the shore of Belfast Bay by Mrs. M’Gee, the others found by Mr. H. adhering to oysters in Belfast market in 1831.
- Patella* ? *Forbesii*, Smith, ‘Wern. Mem.’ vol. viii. p. 107. pl. 2. One of this species was found by Miss M. Ball several years ago in company with *Orbicula Norvegica*, Lam. on a stone dredged in very deep water at Youghal.
- ? *ancyloides*, Forbes, MS. Obtained by Mr. Hyndman many years ago on oysters from Strangford lough. Length 3 lines, breadth  $2\frac{3}{4}$ , height  $1\frac{3}{4}$ . The great resemblance this shell bears to the *Ancylus fluviatilis* is not confined to external appearance, but internally it exhibits the same blueish cast.
- “ *Dentalium striatulum*. Found in sand near Cove.” Mr. John Humphreys. Portmarnock, Mr. Warren.
- “ *Chiton ruber*, Linn. Among oysters from Killinchy, Down.” Temp. MS. Found by Mr. Hyndman and myself in different localities on the north-east coast.
- *albus*, Mont. As last.
- *fuscatus*, Brown. Ditto.
- Aplysia depilans*, Linn. Youghal and Dublin, R. Ball, Esq. M. Malbay, W. H. Harvey, Esq. Obtained by dredging in Belfast and Strangford loughs by Mr. Hyndman and myself.
- “ —— *punctata*, Cuv. Dublin.” R. Ball, Esq.
- “ *Bulla catena*, Mont. M. Malbay, rare. A beautiful little species about a line in length marked with elegant chain-like bands.” W. H. Harvey, Esq.
- *striata*, Brown, Illust. pl. 38. f. 41, 42. Bangor, co. Down.” Mr. Hyndman.

*Littorina saxatilis*; Bean, MS. Northern and eastern coasts: common.  
*Eulima Donovanii*, Forbes. 'Mal. Mon.' p. 15. Youghal and Dublin,  
 R. Ball, Esq. Dredged off Dundrum, co. Down, by Mr. Hyndman and myself.

——— *Jeffreysii*. Dublin coast, Mr. Ball and Mr. Warren.

——— *bilineata*, Jeff. A *Eulima* so named by Mr. Jeffreys is in the collection of Mr. Warren, who found it at Portmarnock.

"*Rissoa striatula*. *Turbo monilis*, Turton. M. Malbay, rare." W. H. Harvey, Esq.

——— *alba*, var. Brown. Youghal, Miss M. Ball.

*Odostomia unidentata*, Flem. Youghal, R. Ball, Esq.; M. Malbay, not rare; W. H. Harvey, Esq.

*Natica Alderi*, Forbes, 'Mal. Mon.' p. 31. Of frequent occurrence in north, east, and south of Ireland, and hitherto passing under the name of *N. canrena*.

*Marginella voluta*. M. Malbay, rare; W. H. Harvey; Macgilligan (co. L. Derry) and Belfast Bay, G. C. Hyndman; South Islands of Arran, R. Ball.

*Auricula bidentata*, Fer. Youghal and Portmarnock, R. Ball.

"*Buccinum ovum*. [Turt. 'Zool. Journ.' vol. ii. p. 366. pl. 13. f. 9.] Found in the intestines of a Red Gurnard brought to Cork market." Mr. John Humphreys.

"*Cerithium tubercularis*. (*Murex tubercularis*, Mont.) M. Malbay, common." W. H. Harvey, Esq.

*Cerithium Pennantii*, mihi. *Turbo tuberculata*, Penn. 'Brit. Zool.' vol. iv. p. 129. pl. 82. f. 111. *Terebra fuscata*, Flem. 'Brit. Anim.' *Cerithium fuscatum*, Brown, 'Illust. Conch.' p. 9. pl. 5. f. 67. Of this shell there is a specimen from Youghal in Miss M. Ball's collection, agreeing with the descriptions of Fleming and Brown, but only tolerably represented in the above-quoted figures. Mr. E. Forbes having informed me that the *Turbo tuberculata* of Linn. is a different shell, and that the *Cerithium* to which Costa applied the name of *C. fuscatum* is likewise distinct, I have considered it necessary to bestow a new name on the present species.

"*Fusus gyrinus*. Clare and Youghal." R. Ball, Esq.

*Lamellaria tentaculata*, Mont. 'Linn. Trans.' xi. 186. pl. 12. f. 5, 6. Johnston, 'Mag. Nat. Hist.' ix. 229. f. 25. In January 1835 two small individuals, about 4 lines in length, of this rare species were dredged in Strangford lough by Mr. Hyndman and myself.

"*Pecten glaber*. Found in the intestines of a Haddock bought in Cork market." Mr. John Humphreys.

"*Anomia punctata*. Youghal." R. Ball, Esq.

"*Hyalea trespinosa*, Griff. Cuvier, Moll. pl. 3. f. 7." An individual of this species and the first *Pteropode* I believe that has occurred on the British shores, was found by Mr. R. Ball on the coast near Youghal some years ago. At the same time *Spirula* and *Ianthina* occurred, but none of them in a living state.

"*Arca fusca*. Coast of Galway." R. Ball, Esq., who considers its rank as a species doubtful.

*Nucula tenuis*. Found at Portmarnock by T. W. Warren, Esq.

——— *nitida*, Sowerby. Coast of Dublin.

*Pinna fragilis*, } Turt. Bivalves. The three first named noted by  
——— *papyracea*, } Mr. John Humphreys as found at Cove; the two  
——— *pectinata*, } first and *P. muricata* by Mr. R. Ball as obtained  
——— *muricata*, } from the same locality. As species they are  
looked upon with much doubt.

*Cardium nodosum*\*, Mont. North and east coasts. This shell is noticed by Mr. Smith as found in the newer pliocene deposits in Ireland. 'Wern. Mem.' vol. viii. part 1.

*Anodon intermedius*, Lam. I have found this in the rejectamenta of the river Lagan near Belfast.

——— *cellensis*, Pfeif. River Shannon and Grand Canal. The *An. anatinus* and *An. cygneus* have been recorded as Irish. Although enumerating these, I am not disposed to take the views of authors who make so many species in this genus.

"*Amphidesma distortum*. Youghal." R. Ball, Esq.

"*Donax complanata*. Bantry Bay, rare." Mr. J. Humphreys.

"*Tellina similis*. Dublin." R. Ball.

"——— *bimaculata*. Bantry." R. Ball. This species is given doubtfully as Irish in Mr. O'Kelly's catalogue.

*Tellinya ovata*, Brown's 'Illust. Brit. Conch.' pl. 14. f. 20, 21. Specimens of this shell from the southern coast are in Mr. Hyndman's cabinet.

*Myrtea spinifera*, Turt. Bantry Bay. Miss M. Ball. Marked with doubt by Mr. O'Kelly as a Portmarnock shell. It has been indicated as an Irish species by Mr. Jeffreys when noticing the mollusca he obtained at Oban in Argyleshire: he remarks that

\* *Mytilus edulis*, Linn. The variety? *M. subsaxatilis*, Williamson, 'Mag. Nat. Hist.' vii. 353. has been found at Youghal by Miss M. Ball. The var. *M. incurvatus* monopolizes, almost to the exclusion of the other forms of this species, the shores of Ireland that are exposed to the swell of the ocean.

*Venus virginica*, Linn. The var. *V. Sarniensis*, Turt. dredged on the Dublin coast by Dr. Lloyd of Malahide.

the individuals here procured were "only half the size of the Irish specimens." Sowerby's 'Malac. and Conch. Mag.' No. 2. p. 43.

"*Cyprina minima*. M. Malbay, rare." W. H. Harvey. Bantry Bay. Mr. J. Humphreys.

*Pisidium obtusale*, Pfeif. ? Jenyns, I have collected in a few localities in the north-east of Ireland.

——— *cinereum*, Alder. As last. La Bergerie, Queen's county, Rev. B. J. Clarke.

"*Teredo bipennata*. From the mast of a vessel cast ashore at Youghal." R. Ball. M. Malbay, W. H. Harvey.

"*Xylophaga dorsalis*. In rotten wood at Ringsend, Dublin." W. H. Harvey\*.

*Montacuta purpurea*. *Mya purpurea*, Mont. Abundant on the north-east coast. It was this species and not *Kellia rubra* that was found in the stomach of mullet as noticed in 'Annals Nat. Hist.' vol. i. p. 354. *K. rubra* also occurs on the Irish shores.

*Pandora obtusa*, Leach, Lam. Penn. 'Brit. Zool.' vol. iv. pl. 64. (three lowest figures) ed. 1777 : same work, ed. 1812. *Solen pinna*, vol. iv. p. 175. pl. 67. f. 3. Dredged off Carrickfergus Sept. 1835, Mr. Hyndman ; subsequently by Mr. H. and myself in Strangford lough.

[To be continued.]

IV.—*Nonnullorum Cerambyciturum novorum, Novam Hollandiam et Insulam Van Diemen habitantium characteres.* By EDWARD NEWMAN, F.L.S., &c.†

GENUS. *SCELROCANTHA*, Newman.

*Prioni* facies : prothorax utrinque spina recurva laterali armatus ; pone spinam excavatione semicirculari incisus, postice bisinuatus : tibiæ sulcatæ, carinatæ, extus spinosæ.

\* *Pholas papyraceus*, Solander. Turt. Brit. Biv. Mr. Harvey has shown me a specimen which he found in 1826 in a fishing-boat in Dublin Bay ; but as Torbay boats occasionally visit this place, and in one of them it may possibly have occurred, the species cannot be announced as Irish.

† At the particular request of Mr. Davis, now settled at Adelaide, in South Australia, I have written characters for some of the fine Coleoptera which he has sent to this country : that portion of the list containing the Longicorns being ready, I have added a few more descriptions from specimens in the collection of Mr. Children, to which he has most obligingly allowed

Sp. 1. *S. glabricollis*. Piceus, prothorax glaberrimus: elytra profunde puncta, punctis humeralibus rarioribus, discoidalibus majoribus, apicalibus crebrioribus. Corp. long. 1·5 unc., lat. ·66 unc.

Exemp. unic. in Mus. D. Children.

Habitat. Insula Van Diemen.

Sp. 2. *S. pilosicollis*.

Prionus pilosicollis, *Hope, Trans. Ent. Soc.* tom. i. p. 16.

Exemp. unic. in Mus. Soc. Ent.

“Habitat. Nova Hollandia apud Swan River.”

Genus. TOXEUTES, *Newman*.

*Malldonis* fere facies: prothorax utrinque spinis recurvis, lateralibus, acutissimis armatus; spina antica ad marginem anticum sita, valde arcuata; spina 2<sup>da</sup> mediana minus arcuata: tibiæ inermes.

Sp. 1. *T. arcuatus*.

Prionus arcuatus, *Fabricius, Syst. Eleu.* tom. ii. p. 259.

Exemp. In Mus. Brit., &c.

Habitat. Insula Van Diemen.

Genus. MALLODON, *Serville*.

Sp. *M. stigmatosum*. Piceum: prothorax parallelipipedus, marginibus lateralibus crenatis, angulis posticis acutis, disco minutissime puncto, obscuro, spatiis 2 glabris fere trigonis exceptis: elytra rugosa: abdominis segmenta stigmatate magno utrinque impressa. Corp. long. 1·5 unc., lat. ·6 unc.

Exemp. unic. in Mus. D. Children.

Habitat. Nova Hollandia.

Genus. DORX, *Newman*.

*Dorci* facies: caput porrectum, medio longitudinaliter sulcatum, mandibulæ validæ, extus et intus arcuatæ, apice bidentatæ, intus inermes: labi- et maxipalpi elongati, longitudine fere æquales, articulo apicali incrassato; antennæ corporis dimidio longiores, 11-articulatæ, articulus 2<sup>us</sup> brevissimus, ceteri subæquales, compressæ oculos haud attingentes: prothorax longitudine paullo latior; margo anticus postico latior; margines laterales paullo sinuatæ; elytra linearia, prothorace paullo angustiora, disco convexo, apice rotundata: tibiæ angulares, pedetentim incrassatæ, apice spinis 2 acutis, halteribus 2 obtusis armatæ: tarsi manifesto 5-articulati: articulus 4<sup>us</sup> brevis at satis notabilis.

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me free access, and from some others in the British Museum. These hasty notes will, I trust, not merely serve to secure me priority in nomenclature, but will, on account of the extreme singularity of some of the forms described, afford considerable interest to our scientific entomologists.

Sp. *Doræ pentamera*. Nigra : elytris punctis, spina apicali suturali brevissima armatis : pedes picei. Corp. long. 1·4 unc., lat. ·5 unc.

Exemp. unic. in Mus. D. Children.

Habitat. Nova Hollandia.

Genus. PITHANOTES, *Newman*.

*Prioni* facies : Caput porrectum : mandibulæ validæ, extus arcuatæ, intus dentibus duobus minutis armatis, apice acutissimæ : labi- et maxipalpi breves articulo apicali cylindrico : antennæ corporis dimidio longiores, 11-articulatæ, articulus 2<sup>us</sup> brevis, 3<sup>us</sup> 4<sup>um</sup> cum 5<sup>o</sup> longitudine æquans : prothorax brevis, angulis rectangulis, utrinque spina acuta mediana laterali armatus : tibiæ fere *præcedentis*.

Sp. *Pith. falsus*. Niger : prothorax tuberibus nonnullis, quarum 4 seriem transversam constituunt, armatus : elytra ad humeros verrucosa, apicibus rotundatis, spina nulla suturali armata. (Corp. long. 1·25 unc., lat. ·55 unc.

Exemp. unic. in Mus. D. Children.

Habitat. Nova Hollandia.

Genus. BRACHYTRIA, *Newman*.

Caput in prothorace receptum : oculi fere reniformes : mandibulæ et palpi brevissima : antennæ dimidio corporis longiores, 11-articulatæ ; articulus 1<sup>us</sup> latitudine duplo longior, curvatus ; 2<sup>us</sup> 3<sup>us</sup> et 4<sup>us</sup> brevissimi ; cæteri longitudine subæquales, vix elongati : prothorax capite latior, subglobosus, angulis posticis late excavatus : scutellum elongatum, apice rotundatum : elytra prothorace latiora, fere parallela, dorso complanata, apice rotundata, inermia : pedes breves, femoribus pedetentim tumentibus.

Sp. *B. gulosa*. Fusca ; facie, gula, capitis parte postica, prosterni parte antica croceis : elytrorum margo costalis, macula mediana albida signatus : caput rugose punctatum : prothorax rugosus punctis magnis confluentibus impressus : elytra 3-carinata, utriusque carinæ duæ distinctæ fere ad apicem desinens, 3<sup>ia</sup> subsuturalis indistincta longe ante apicem desinens. Corp. long. ·7 unc., lat. ·175 unc.

Exemp. 1. in Mus. Brit. ex dono Rev. Augusti Beaufort.

Habitat. Insula Van Diemen.

Genus. NECYDALIS, *Linnaeus*.

Caput exsertum : antennarum articulus 4<sup>us</sup> sequentibus manifesto brevior : femora apice pedetentim tumida, metatarsi manifesto dilatati.

Sp. *N. auricomus*. Niger ; capite croceo, antennis oculisque nigris ; prothorax nigerrimus, opacus : elytra semipellucida, pallida, apicibus ni-



gricantibus : pectus et abdomen lanugine aurea vestita. (Corp. long. .4 unc., lat. .075 unc.)

Exemp. 1. in Mus. D. Turner.

Habitat. Nova Hollandia. "Exemp. unic. prope Adelaide lectum tantum vidi." A. H. Davis.

Genus. HESTHESIS, Newman.

Caput pronum, in prothorace ad oculos reconditum : antennæ *maris* corpore longiores 12-articulatæ, *feminæ* corpore breviores 11-articulatæ apice paullo crassiores, articulus 4<sup>us</sup> 5° et sequentibus vix brevior : prothorax valde convexus capite manifesto latior vix longior lateribus medio vix productis : elytra abbreviata, quadrata : corpus obesum lanuginosum : pedes compressi, femoribus vix tumidis ; protarsi paullo dilatati meso- et metatarsi nullomodo dilatati.

Sp. 1. *H. variegatus*.

Molorchus variegatus, *Fab. Syst. Eleu.* tom. ii. p. 375.

Exemp. in Mus. Ent. Club.

Habitat. Nova Hollandia.

Sp. 2. *H. ferrugineus*.

Molorchus ferrugineus, MacLeay — ? *Boisduval, Faune de l'Océanie*, p. 487.

Exemp. in Mus. Ent. Club.

Habitat. Nova Hollandia.

Sp. 3. *H. cingulatus*.

Molorchus cingulatus, *Kirby, Trans. Linn. Soc.* vol. xii. p. 470.

Exemp. in Mus. Ent. Club.

Habitat. Nova Hollandia.

Sp. 4. *H. bizonatus*. Abdominis zonulæ 2 ; prothoracis margo anticus tenuis flavus ; antennæ basi graciles ferruginæ ; apice crassiores fuscæ : pedes ferruginei, femoribus apice nigris profemora fere tota nigra. Corp. long. .7 unc., lat. .175.

Exemp. 1. in Mus. Soc. Zool. Lon.

Habitat. Nova Hollandia.

Genus. HELIOMANES, Newman.

Caput pronum vix exsertum ; antennarum gracilium articulus 4<sup>us</sup> sequentibus haud manifesto brevior ; elytra oblonga apice rotundata : corpus gracile : femora apice repente et manifesto tumida ; tarsi mediocres simplices.

Sp. 1. *H. Sidus*. Fuscus ; antennæ corpore breviores : prothorax elongatus medio longitudinaliter impressus, utrinque pone medium dente laterali armatus : elytra extus curvata, fusca, fasciis albidis undulatis duobus. (Corp. long. .3 unc., lat. .075 unc.)

In Mus. D. Children et D. Hope.

Habitat. Nova Hollandia.

Genus. *CALLIDIUM*, Fabricius.

Sp. *C. Faber*. Fuscum, nitidum: elytra puncta, utriusque discus macula magna testacea signatus: femora pallida, tumida: tibiæ tarsique suturata. Corp. long. .325 unc., lat. .1 unc.

Exemp. 2. in Mus. D. Turner.

Habitat. Nova Hollandia. "Exemp. 2, prope Adelaide lecta." A. H. Davis.

Genus. *COPTOMMA*, Newman.

Caput in prothorace fere ad oculos reconditum, porrectum, prothorace angustius; oculi arcuati, medio ad antennarum basin profunde emarginati, fere divisi: antennæ glabræ, *maris* valde, *femina* vix corpore longiores, 11-articulatæ, articuli e quarto compressi: elytra basi prothorace latiora apice angustiora, rotundata, inermia, *femina* haud abdomen tegentia: femora pedetentim tumida inermia.

Sp. 1. *C. virgatum*. Atrum, fulgore chalybeo nitens: antennarum apicibus albidis: caput albido 4 lineatum; lineæ 2 verticis inter antennas desinunt, 2 laterales oculos secant et in faciem adjunguntur: prothorax albido 4 lineatus, lineæ lineis capitis continuæ: elytrorum lanugo lutea maculam basalem obliquam, alteram medianam transversam, multasque minores irroratas format: metafemora macula mediana albida signata. (Corp. long. .8 unc., lat. .3 unc.)

Exemp. 2. in Mus. D. Children.

Habitat. Nova Hollandia.

Sp. 2. *C. textorium*. Testaceum, fulgore chalybeo nitens; lineis 2 capiti, prothoraci, elytrisque communibus albidis: lineæ elytrorum medio longitudinaliter hiantes. (Corp. long. .6 unc., lat. .2 unc.)

Exemp. 1. in Mus. D. Children.

Habitat. Nova Hollandia.

Genus. *ISCHNOTES*, Newman.

Caput pronum in prothorace ad oculos reconditum; oculi magni, sphaeroides, vix emarginati; antennæ prothorace duplo longiores, filiformes, 11-articulatæ; articulus 1<sup>us</sup> tumidus, 2 minimus, sequentes graciles elongati: prothorax absolute cylindræus, capite quintuplo longior, ad marginem posticum pedes brevissimos ferens: elytra linearia, prothorace vix latiora at manifesto longiora, apice rotundata inermia: pedes simplices.

Sp. *I. cylindræus*. Nigra, opaca: inter oculos linea longitudinalis vix elevata: prothorax subtilissime punctus, sed ad marginem posticum serie transversali punctorum profundorum impressus: elytra profunde puncta: pedes brevissimi. (Corp. long. .525 unc., lat. .05 unc.)

Exemp. 1. in Mus. D. Turner.

Habitat. Nova Hollandia. "Exemp. 1. prope Adelaide lectum." A. H. Davis.

## Genus. XYSTROCERA, Serville.

Sp. *X. virescens*. Fusca, splendore virescenti læta: prothorax et elytra puncta, punctis plus minusve confluentibus: elytra 3-lineata, lineis haud prominentibus, apice rotundata. (Corp. long. 1·2 unc., lat. ·3 unc.)

Exemp. 1. in Mus. Brit. D. Hardwicke legato.

Habitat. Nova Hollandia.

## Genus. PHORACANTHA, Newman.

Hujus generis species sub genere "*Stenocorus*" celeberrimi Geoffroyi collocant MacLeay, Hope et Boisduval: autem *Stenocorus* cum genere "*Rhagium*" distincte est synonymus, scilicet Sp. 1. *St. bifasciatus* *Rhagium bifasciatum* certe est: iterumque Sp. 2. *St. Inquisitor* *Rha. Inquisitor* sine dubio. Audinet Serville (nisi sub nomine "*Mallocera*" insectorum Americæ Meridionalis genus) species haud collocat. Generis typus *Cerambyx semipunctatus* Donovan. Antennarum articuli plus minusve apice-1 spinosi: prothorax utrinque medio 1-spinosus, spina plus minusve prominens: elytra apice truncata plus minusve bispinosa: descriptionem fusiorem haud requirat genus percognitum. Novam Hollandiam species omnes incolant.

Sp. 1. *P. Synonyma*.

*Stenocorus punctatus*. Kirby 'Transactions of the Linnæan Society,' xii. 471. "Antennæ breviores rufo-piceæ articulis 5 intermediis, extus apice spina armatus, &c."

Sp. 2. *P. tricuspis*, ined.\*Sp. 3. *P. quinaria*, ined.Sp. 4. *P. punctata*.

*Stenocorus punctatus*, Donovan, 'Epitome of the Insects of New Holland.'

Sp. 5. *P. obscura*.

*Stenocorus obscurus*, Donovan, Id.

Sp. 6. *P. semipunctata*.

*Stenocorus semipunctatus*, Oliv. 69, tab. ii. fig. 19.

*Stenocorus semipunctatus*, Fab. Syst. Eleu. ii. 306.

*Stenocorus semipunctatus*, Donovan, Epitome, &c.

Sp. 7. *P. curvispina*, ined.Sp. 8. *P. rubripes*.

*Stenochorus rubripes*, Boisduval, 'Faune de l'Océanie,' p. 477.

Sp. 9. *P. dorsalis*.

*Stenochorus dorsalis*, MacLeay, 'Appendix to King's Voyage,' ii, 451.

Sp. 10. *P. aberrans*, ined.Sp. 11. *P. ventralis*, ined.Sp. 12. *P. biguttata*.

*Stenocorus biguttatus*, Donovan.  
——— tessellatus, Latreille.

Sp. 13. *P. senio*, ined.

\* I was on my way to the printers, with the MS. of these notes in my pocket, when accidentally meeting Mr. Westwood, I learned that the Rev. F. W. Hope was about to publish figures and descriptions of several new species of this genus: I have therefore withdrawn the descriptions I had written, lest my new species should clash with Mr. Hope's.

## Genus. DIDYMOCANTHA, Newman.

Caput exsertum, vix pronum; oculi magni, reniformes, antennis fere amplectentes; antennæ corpore manifesto longiores 11-articulatæ; articulus 1<sup>us</sup> paullo tumidus, 2<sup>us</sup> minutissimus; 3<sup>us</sup>, 4<sup>to</sup> paullo longior, 5<sup>us</sup>, 3<sup>ti</sup>o vel 4<sup>to</sup> paullo longior, cæteri ad apicem præcedentibus longiores, compressi; prothorax capite longior et angustior, lateribus spinis, 2<sup>us</sup> armatis et inter spinas dente obtuso instructis; elytra prothorace latiora parallela apice rotundata inermia: femora pedetentim vix tumescentia.

Sp. *D. obliqua*. Antennarum articuli 1<sup>us</sup> et 2<sup>us</sup> nigri, 3<sup>us</sup> 4<sup>us</sup> et 5<sup>us</sup> lutei apice nigri, cæteri fusci: scutellum albidum: elytra sordide testacea fasciis binis abnormibus nigris. Corp. long. .525 unc., lat. .175 unc.

Exemp. 1. in Mus. D. Children.

Habitat. Nova Hollandia.

## Genus. PHLYCTÆNODES, Newman.

Caput exsertum, vix pronum; maxilpalpi mandibulis valde longiores; antennæ 11-articulatæ, articulus 1<sup>us</sup> paullo tumidus, 2<sup>us</sup> subglobosus; cæteri longitudine fere æquales, ultimo breviori: prothorax dorso 4-spinosus, spinis 2 anticis acutis paullo retrorsum curvatis; 2 posticis vix acutis nullo modo curvatis; lateribus 1-spinosus; spina mediana, acuta retrorsum curvata: elytra parallela prothorace latiora, apice obtusa inermia: femora pedetentim tumida.

Sp. *P. pustulosa*. Fusco-niger concolor; caput, prothorax et elytra pustulis—basi majoribus apice minutissimis—crebre tecta. (Corp. long. 1.2 unc., lat. .3 unc.)

Exemp. 1. in Mus. D. Children.

Habitat. Nova Hollandia.

## Genus. TESSAROMMA, Newman.

Caput exsertum, porrectum; antennæ graciles, corpore vix breviores, 11-articulatæ; articulus 1<sup>us</sup> pyriformis, basi constrictus, apice tumidus; 2<sup>us</sup> brevis obconicus; ceteri fere lineares; 3<sup>us</sup> 2<sup>do</sup> paullo longior, 5<sup>us</sup> et sequentes 3<sup>ti</sup>o paullo longiores: oculi 4, anteriores majores: prothorax capite angustior elongatus, dorso gibber spinis 2, lateribus spina mediana armatus: elytra prothorace quadruplo longiora vix duplo latiora, parallela apice extremo oblique abscissa, femora apice repente tumescentia.

Sp. *T. undatum*. Testaceum, fusco variegatum lanugine serica splendidum; antennæ et pedes testacea: femora et tibiæ fusco cincta (Corp. long. .8 unc., lat. .15 unc.)

Exemp. unic. in Mus. D. Turner.

Habitat. Nova Hollandia. " Exemp. unic. prope Adelaide, sub cortice,

mense Junio lectum; vivens formosissimus coloreque fulgoreque.”  
A. H. Davis.

Genus. RHAGIOMORPHA, Newman.

Caput exsertum porrectum; antennæ filiformes longitudine corpus æquantés, 11-articulatæ; articulus 1<sup>us</sup> elongatus, arcuatus, apice tumidus; 2<sup>us</sup> minutus; cæteri graciles, longitudine fere æquales: prothorax capite haud latior dorso tuberis 4 fere confluentibus instructus, lateribus medio gibberis in spinam obtusam productis: elytra prothorace latiora linearia apicibus rotundatis: femora manifesto ac pedetentim tumida.

\* Species normales.

Sp. 1. *R. Lepturoides*.

Stenocortus Lepturoides, Boisduval, Faune de l'Océanie, p. 479.

Exemp. in Mus. D. Gory, Dupont, et Buquet.

Habitat. Nova Hollandia. Apud Port Jackson lectum.

Sp. 2. *R. concolor*.

Stenoderus concolor, MacLeay. Appendix to King's Voyage, vol. ii. p. 451.

Exemp. unic. in Mus. D. Children. Descriptio vix distincta.

Habitat. Nova Hollandia.

Sp. 3. *R. sordida*. Fusca, lunagine argenteo sparsim vestita; caput inter antennæ excavatum, punctum: prothoracis dorsum longitudinaliter impressum: singuli elytri lineæ vix elevatæ 3: femora basi pallidiora. (Corp. long. .5 unc. lat. .1 unc.) antennæ desunt.

Exemp. unic. in Mus. D. Turner.

Habitat. Nova Hollandia. “Exemp. 1. prope Adelaide lectum.” A. H. Davis.

\*\* Species aberrantes.

Sp. 4. *R. oculifera*. Caput exsertum linea longitudinali impressum; antennarum articuli 1 et 2 nigri; 3<sup>us</sup> hirsutie exteriori rufa ornatus; 4<sup>us</sup> et sequentes piceï: prothorax lateribus lanugine aurea vestitus: elytra quasi reticulata, 4 carinata, carina prima macula rotunda lanuginosa aurea interrupta est et ante apicem desinet; 2<sup>us</sup> 1<sup>o</sup> longior fere ad apicem desinens; inter 1<sup>um</sup> et 2<sup>um</sup> linea aurea, lanuginosa, basalis apparet; 3<sup>us</sup> ad humerum oritur et longe ante præcedentes desinet; 4<sup>us</sup> infra humerum oritur et ante apicem 2<sup>o</sup> conjungitur: mesosternum utrinque linea lanuginosa argentea signatum. (Corp. long. .7 unc. lat. .1 unc.)

Exemp. 2. in Mus. Brit.

Habitat. Nova Hollandia.

Genus. STENODERUS, Dejean.

Sp. *grammicus*. Pallide ferrugineus: oculi nigri: prothoracis latera fusca: singuli elytri margo suturalis lineæque tres elevatæ albida, linea prima ad marginem suturalem, secunda ad lateralem, in medio tendit. Corp. long. .425 unc., lat. .075 unc.

Exemp. 3. in Mus. D. Turner.

Habitat. Nova Hollandia. “Exemp. 3. prope Adelaide lectum.” A. H. Davis.

V.—*Description of Limneus involutus, Harvey, MS.* By W. THOMPSON, Vice-President of the Natural History Society of Belfast;—with an account of the Anatomy of the Animal. By JOHN GOODSIR, Esq.

[With a Plate.]

*Limneus involutus,* } Harvey, MS.  
*Amphipeplea involuta,* }

SPEC. CHAR. Spire sunk within the outer whorl; aperture very large, extending to the apex.

The finest specimen I have examined is  $5\frac{1}{2}$  lines in length, and  $3\frac{1}{2}$  in breadth; volutions four, the largest enveloping the other three, of which none are visible in the profile of the shell; aperture very large, wide at the base (exposing the columella throughout its entire length) and extending to the apex of the shell, margin reflected only where it joins the pillar. Shell polished, of a pale amber colour, extremely thin, with coarse longitudinal striæ.

This species approaches the *L. glutinosus* more nearly than any other native *Limneus*, but from the circumstance of the aperture extending to the apex, has at a cursory view as great a resemblance to the *Bulla Akeræ*, Mont., as to any other British shell; a coincidence which is rendered still more remarkable by the columella presenting the same appearance in the *L. involutus* as it does in that species.

The discovery of this new and beautiful mollusk is due to my friend Wm. H. Harvey, Esq. (well known for his botanical investigations) who obtained a few specimens in a small alpine lake on Cromaylaun mountain, near the celebrated lakes of Killarney, in the month of April 1832.

The above account was read to the Linnæan Society of London in April 1834. To the present time (Sept. 1839), I have not heard of the occurrence of the species in any other locality in Ireland. The original station was visited by Mr. R. Ball and myself in June 1834, when we procured only a few small specimens. The time was however unfavourable for seeing these mollusks to any advantage, being at a very early hour in the morning, before the warmth of the sun had tempted them to leave the bottom of the lake or adjoining rivulet.

This shell, from partaking more of the form of the marine

genus *Bulla* than of the other *Limnei*, seemed so highly interesting, that I conceived that the mere description of it would be of comparatively little value without that of the animal. Its dissection was most kindly undertaken by Mr. Goodsir, to whom I am indebted for the following description, and the admirable drawing which illustrates it.

“ In structure the *Limnæus involutus* resembles the other species of the genus. When its organs are compared with those of the *L. stagnalis* as described and figured by Cuvier, they are found, with the exception of the nervous collar, and the reproductive organs, to be nearly identical in arrangement and structure (Plate I. fig. 2.).

“ In his memoir on the *Limnæus* and *Planorbis*, Cuvier describes the supra-œsophageal portion of the nervous collar as consisting on each side of three small globules, connected mesially by a narrow portion; of an infra-œsophageal ganglion composed of three masses, and of a small ganglion at the junction of the buccal apparatus and gullet. In the *L. involutus* the nervous collar presents the following arrangement (fig. 3.). On each side of the gullet and buccal mass, there are two fusiform ganglia (*a a*), connected superiorly by a straight narrow commissure (*b*), and inferiorly by four small lateral (*c c c c*) and two large median ganglia (*d d*). Anterior to these and concealed by the buccal mass are two large ganglia (*e e*), connected mesially to one another, and laterally to the middle of the lateral ganglia (*a a*), having no connexion with the six posterior ganglia. The masses (*a a*) give off near their anterior extremities two nerves, which run forward along the inferior surface of the buccal apparatus, and terminate in two small ganglia (*f f*), which are connected by a filament, and distribute nerves to the buccal mass and œsophagus. The lateral ganglia therefore have one superior commissure, consisting of a simple cord, and two inferior commissures, the posterior containing six ganglia, the anterior two. The lateral and the six posterior ganglia give off all the nerves described by Cuvier; the two anterior connecting masses supply the muscular bundles in their neighbourhood.

“The arrangement of ganglia described above is not peculiar

to this species, as it exists also in the *L. Pereger*; and one similar but more complex has been described and figured in the 'Annales des Sciences Naturelles' for 1837, page 112, by Vanbeneden as existing in the *L. glutinosus*. Vanbeneden describes a median between the two large anterior ganglia, and another between the two small stomato-gastric ganglia.

"Cuvier in his memoirs on the *Limnæus* and on the other gasteropod mollusks, mistook the testicle for the ovary, and consequently reversed certain of the other reproductive organs. Prevost of Geneva, in a paper published in the Transactions of the Physical and Natural History Society of that place for 1828, and in another contained in the 'Annales des Sciences Naturelles' for 1833, pointed out this error, and described the very beautiful structure, by means of which the seminal fluid is conveyed along the cavity containing the eggs, without coming in contact with them. This structure may be distinctly seen in the *Helix aspersa*, in which it consists of a groove, with the orifice of the duct at both extremities, running along the inner surface of the oviduct. When the fluid is passing from the testicle this groove is converted into a temporary tube by the close apposition of its lips; a structure similar to the groove in the true ruminating stomach. The arrangement of the reproductive organs in *L. involutus*, although different from that described by Cuvier in the *L. stagnalis*, is yet similar to that given by Prevost. The testicle, *a*, fig. 2. which is situated in the extreme whorls of the shell, sends off a duct, which has attached to it in the middle of its course, small follicles (*b*) of the same diameter as itself, which appear, if carelessly examined, like duplications of the tube. The duct then becomes closely connected with the point of junction of the ovary and oviduct, runs along the latter for a short distance, and opens into the acute extremity of an oblong sac (*c*), which is closely but not intimately adherent to the oviduct. This sac appears granular from the follicular arrangement of its inner surface; it is bulbous at its anterior extremity, near which it sends off the second division of the seminal duct (*d*), which running along the terminal extremity of the oviduct, at length leaves it, and dives under the transverse muscles (*e*) of the foot, as described by Cuvier in *L. stagnalis*, again



appears near the root of the male organ (*f*), where it is coiled up, and before terminating in the penis presents a small dilatation.

“The female organs are an ovary (*g*) which lies across the middle of the body; and an oviduct (*h*) which is dilated and sacculated transversely along its middle third. The vesicle (*i*) found in this situation in the gasteropod mollusks opens by a short neck at the termination of the oviduct.

“JOHN GOODSIR.”

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VI.—On certain Characters in the *Crania and Dentition of Carnivora* which may serve to distinguish the subdivisions of that Order. By G. R. WATERHOUSE, Esq.\*

JUDGING from the form of the skull and lower jaw, and from the structure of the teeth, the order *Carnivora* appears to consist of six families, of which the Dog, Viverra, Cat, Weasel, Bear, and Seal afford familiar examples; of these the Cats and Weasels appear to be the most truly carnivorous, and the Bears the least so.

To these six families Mr. Waterhouse applies the names *Canidæ*, *Viverridæ*, *Felidæ*, *Mustelidæ*, *Ursidæ*, and *Phocidæ*.

In the first of these families (the *Canidæ*) the muzzle is elongated; the bony palate terminates in a line with the hinder margin of the posterior molars, or even in advance of that line, and in this respect differs from other *Carnivora*; the posterior portion of the skull is short, and there are two true molars on either side, both of the upper and lower jaw.

The principal genera contained in this family are *Canis*, *Fennecus*, *Lycaon*, and *Megalotis*. In the form of the lower jaw, and in dentition, the last-mentioned genus affords a most remarkable exception to the other *Carnivora*, and the palate terminates behind the line of the posterior molars; there may be some doubt therefore as to its real situation.

The *Viverridæ* have the same general form of skull as the *Canidæ*, but differ in having the posterior portion more produced; the bony palate is carried further back, and the small back molar observable in the lower jaw of the Dogs is here wanting; they have, therefore, but one true molar on either side of the lower jaw, and two true molars on each side of the upper jaw.

To this family belong the genera *Paradoxurus*, *Cynogale* (which

\* Communicated to the Zoological Society, Sept. 24, 1839.

is the *Potamophilus* of Müller and *Limictis* of De Blainville), *Ambliodon*, *Hemigaleus*, *Herpestes*, *Cynictis*, *Ryzæna*, *Crossarchus* (the three last being divisions or subgenera of *Herpestes*, in which there is a complete bony orbit), *Viverra*, *Genetta*, *Prionodon*, and *Cryptoprocta*.

The Hyæna, Mr. Waterhouse is inclined to regard as an aberrant form of the *Viverridæ*: in the general characters of the cranium, and especially in the curved form of the lower jaw, it differs considerably from the Cats (with which it has by some been associated), and approaches the *Viverras*. If, however, it be placed with the *Viverridæ*, it will form an exception, as regards its dentition, having but one true molar on either side of the upper jaw. The 'carnassière' has a large inner lobe, and in this respect also resembles the *Viverras*, and not the Cats.

The species of the family *Felidæ* may at once be distinguished by the short rounded form of the skull, combined with the straightness of the lower margin of the ramus of the lower jaw, and the reduced number of the teeth, especially of the true molars, of which there are none in the lower jaw, and but one in the upper, and that very small.

This family contains the genus *Felis*, species of which are found in all quarters of the globe, Australia excepted. The Cats appear to bear the same relation to the *Mustelidæ* as the Dogs to the *Viverridæ*.

The *Mustelidæ*, like the *Felidæ*, have the muzzle short and obtuse; the skull, however, is more elongated. They may be distinguished by there being one true molar on either side of each jaw; that in the upper jaw is well-developed, and generally transverse; but in some, such as the Badger, it is longer than broad: in the Otters, Skunks, and American Badger (*Taxidia Labradorica*), the true molar is intermediate in form between the common Badger (*Meles vulgaris*) and the more typical *Mustelidæ*. The false molars in the Weasels (*Mustela*) are typically  $\frac{3-3}{4-4}$ , but in some species they are reduced to  $\frac{1-1}{3-3}$ . As in the *Felidæ*, the angle of the lower jaw, in the greater portion of the *Mustelidæ*, is on the same plane as the lower edge of the horizontal ramus: in other *Carnivora* it is raised. In this family there is a great tendency in the glenoid cavity of the temporal bone to inclose the condyle of the lower jaw. The condyle is more truly cylindrical, and longer than in other *Carnivora*. In the Dogs there is no trace of the anterior descending process of the temporal bone, which in the *Mustelas* confines the condyle of the lower jaw;

in other *Carnivora* there is always a slight trace of this process, but in none does it inclose the condyles, as in most of the *Mustelidæ*.

The genera contained in this family are *Mustela*, *Zorilla*, *Galictis*, Bell (which must not be confounded with the *Galictis* of Is. Geoffroy St. Hilaire, published in the 'Comptes Rendus' for October 1837, p. 581.), *Mellivora*, *Ursitaxus*, *Helictis* and *Gulo*, in which the true molar of the upper jaw is transverse; *Lutra* and *Mephitis*, in which this tooth approaches more or less to a square form; *Taxidea*, in which it is triangular; and lastly, *Meles*, *Arctonyx* and *Mydaus*, in which the true molar is longer than broad. This last-mentioned genus evinces an approach to the order *Insectivora*.

In the *Ursidæ* there are two well-developed true molars on either side of each jaw: the 'carnassière' here has changed its function, not being suited, as in other *Carnivora*, to cutting flesh. The palate is considerably elongated. In the Bears (*Ursus* and its subgenera) it is small, being robbed as it were of its nutriment by the true molars, which are very large. In the other *Ursidæ* (*Procyon*, *Nasua*, *Cercoleptes*, *Arctictis* and *Ailurus*,) the 'carnassière,' especially that of the upper jaw, and the true molars, are nearly equal in size, and also nearly resemble each other in other respects\*.

In the true Bears the form of the lower jaw differs from that of any of the preceding *Carnivora* in having a projecting process on the under side of the ramus, and situated a little in advance of the angle of the jaw. The same character is also found in many Seals (*Phocidæ*), which in several other respects appear to approach the Bears.

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VII.—*Summary Description of Four new Species of Otter.* By  
B. H. HODGSON, Esq., Resident at Catmandu, Nepal †.

ONE of the most remarkable features of the mammalogy of Nepal is the great number of distinct species of *Otter* characterizing it. There are at least seven species, I believe, though not one of them is numerous in individuals, at least not in comparison of the common Otter of commerce, which is produced in the neighbourhood of Dacca and Sylhet. This rarity of species, added to the circumstance of the animals not being regularly hunted for their skins, renders it very difficult to procure live specimens; and without live specimens

\* "From an examination of the external characters of *Bassaris astuta*, it appears to me that it belongs to this group."

† From the Asiatic Journal, No. 88, p. 319.

—which may be slain and their osteological as well as other characters thus accurately examined—the discrimination of specific differences is a work of extreme labour and delay. Many years ago I announced to Mr. Bennett, the late Secretary of the London Zoological Society, the fact that there are several species of *Lutra* in Nepal, and before he died he was nearly convinced of the correctness of the statement, though I could not then, nor can now, give a full exposition of even those with which I am best acquainted.

Waiting, however, for the perfect knowledge when the materials of it are not under command, is, I find, like waiting on the river's side for a dry passage after the waters have flowed past; and I shall therefore offer no apology for briefly characterizing those four of the seven Nepalese species of Otter of which I have considerable certainty, leaving the remaining three to some future occasion.

#### GENUS LUTRA.

##### 1st Species—TARAYENSIS NOBIS.

*Size*, medial. *Structure*, typical. Skull and head much depressed. Lower incisors ranged nearly in line. Tail equal to two-thirds the length of the animal, and much depressed. Form robust. Nails compressed, exserted from the finger ends, and acute. Fur short and smooth. *Colour*—above, clear umber; below, and the hands and feet, pure yellowish white; the yellow tint deepest on the limbs; the pale colour on the head and neck extending upwards to the line of the ears—less so on the body; and the distinction of dark and pale hues very decidedly marked. Tail above and below, dark.

##### 2nd Species—MONTICOLUS NOBIS.

*Size*, large. *Structure*, upon the whole similar to the above. Tail equal to more than two-thirds of the animal, and less depressed. Skull and head less depressed. Intermediate incisors of lower jaw ranged entirely within or behind the line of the rest. *Colour*—above, deeper than the above, or bistre brown; below, sordid hoary, vaguely defined, except on the edge of the lips and chin; limbs nearly as dark as the body. Fur longer and rough, or porrect from the skin in a considerable degree.

##### 3rd Species—INDIGITATUS NOBIS.

General form and proportions of *Leptonyx*, to which it is affined. Habit of body more vermiform than in the above. Tail but half the length of the animal. Toes very short, and more than half buried in the palmary mass. Nails short and worn, but not depressed nor

truncated, as in *Leptonyx*. *Size*, medial. *Colour*—same as in the last, but deeper still, or dusky bistre; paler and ruddier on the body below, and albescent on the head below; but the colours not well defined, and only really distinct (except in shade) on the inferior surface of the head. Character of the fur as in the last, and indeed in all the mountain species.

4th Species—AURO-BRUNNEUS NOBIS.

*Size*, small. Habit of body still more vermiform. Tail less than two-thirds of the length of the body. Toes and nails fully developed. Fur longish and rough, as before. *Colour*—rich chestnut brown (the fruit) above; and golden red below and on the extremities.

Remarks.—The three last species are confined to the mountains, as is the first species to the plains at their foot. The dimensions in inches, and the weight of the four species are as follow:—

	1	2	3	4
Tip of snout to base of tail . }	26 to 28	30 to 32	22 to 24	20 to 22
Tail . . . . .	16	20	10½	12 to 13
Weight . . . . .	16 to 20 lbs.	20 to 24	11 to 13	9 to 11

I am, Sir,

Your obedient servant,

B. H. HODGSON.

Nepal, May, 1839.

VIII.—Information respecting Botanical Travellers.

*Mr. Schomburgk's recent Expedition in Guiana.*

[Continued from p. 434 of vol. iv.]

THE Yamanack of the Creoles, or Wawula of the Arawaaks, may be considered the representative of the Madagascarian *Lemur* in Guiana. It is the *Potos caudivolvulus* of Desm., or *Cercoleptes caudivolvulus* of Illiger. Its general appearance is so much like a *Lemur* that it has been classed under that family. In its sanguinary disposition, its teeth, and feet, it resembles the feline race, from which it differs however in its slightly prehensile tail, which is considerably longer than the body. The hind legs are a little longer than the fore, and they walk altogether on the soles and palms. They carry their food with the fore paw to the mouth, and are expert climbers. Their prehensile tail is of great advantage in climbing trees when in search of honey, their fur and skin being apparently impervious to the sting of bees. They feed likewise upon young birds, eggs, and mice; they pass the day in hollow trees and

stir out only by night. The glare of the day appears painful to their eyes; those which in a tamed state are exposed to it, appear uncomfortable and slow in their movements, while in the dark they are all dexterity. I have seen several in a tamed state, which when awakened in the day seemed uncomfortable and rolled themselves up again to sleep. Its tongue is long; this organ is therefore admirably qualified for sucking honey. When tamed it appears partial to syrups or any other sweets, but indeed nothing comes amiss to it, and it feeds as well on meat, yams, &c. as on fish.

They are more common at the sea coast, but inhabit likewise the Savannahs. The Macusi Indians of the Savannahs call it Yawari, the Warraus at the sea-coast Uvari.

Those coppices of wood, which rise from amidst the Savannahs like verdant isles from the bosom of a lake, are the favourite abode of an animal, which, if we except its plantigrade feet, approaches in its habits and appearance our martens. It is the *Gulo* of authors.

We observed two species in Guiana, the larger of which may be identified with the *Gulo barbarus*. The size of the individual from which the following description is taken, was two feet from the tip of the nose to the insertion of the tail, the latter being eleven inches. The head was broad and compact, the ears short and round, the back arched, the tail low and bushy, the legs thick and strong, especially the fore feet, which were somewhat shorter than the hinder. The head is gray, the fur above deep brown tipped with white; all the rest of the body is of a deep shining black, with the exception of a large whitish-yellow spot on the breast, which contrasts strongly with the other colours. It possesses the peculiarity of being able to erect all the hair of its bushy tail at pleasure.

The whole appearance of these animals bespeaks strength, and their toes being armed with crooked nails, they have every requisite for indulging in their sanguinary habits. Their principal food are small animals, as mice, rats, birds, and insects, but they also feed on fruit and are partial to honey. As they are expert climbers, they plunder the nests of the wild bees, and like the Coati or *Nasua*, are able to run down a tree which grows perpendicular, head foremost. They feed by day, and generally betake themselves to a hollow tree for their night quarters. Here they likewise seek refuge when hunted. They are found more commonly on Savannahs than elsewhere, and only occasionally in the forest; they never seek their food near human habitations. They are sometimes tamed, and are then gentle and playful; but they are easily excited, and when preparing for defence or war they erect the hair of their tail. They